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Katten, Muchin, Zavis & Rosenman 575 Madison Ave. New York, NY 10022-2585			RYMAN, DANIEL J	
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DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/625,717

Applicant(s)

UENO, TOMOYUKI

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-11 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 12 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 November 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION***Response to Arguments***

1. Applicant's arguments filed 11/2/2004 have been fully considered but they are not persuasive. On pages 13-14, Applicant argues that Dupuy does not teach the limitations of claim 1 because Dupuy does not teach introducing a delay to a frame on a transmitting side in order to maintain a difference in offsets and introducing a delay to a frame on a receiving side in order to compensate for this offset. Examiner, respectfully, disagrees with Applicant's argument.
2. First, since claim 1 does not contain a limitation specifying that the delay is to maintain a difference in offsets, claim 1 does not require that the transmitter add a delay to maintain a difference in offsets. Thus, in response to applicant's argument that Applicant's delay is performed for maintaining a difference in offsets, while Dupuy's delay is performed for a different purpose, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).
3. Second, claim 1 does not require that both the transmitter and the receiver add a delay. Claim 1 reads "delaying each bearer frame of said bearer service by one frame period by allocating delays A ($0 \leq A \leq T$) and A' ($=T-A$) between the sending side and a receiving side." Here, claim 1 requires adding the delay between the sending side and the receiving side, but it does not specify exactly where the delays are added. Therefore, the transmitter and the receiver are not both required to add a delay. Further, Applicant assumes that A is the transmitting delay and A' is the receiving delay; however, claim 1 never allocates A and A' to a particular unit. But

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even assuming that delay A is the transmitting delay and A' is the receiving delay, the ranges for these variables can be set as $A=T$ and $A'=0$, such that there is no delay added by the receiver.

4. For the aforementioned reasons, Examiner maintains that claim 1 is rendered obvious by AAPA and Dupuy.

5. On pages 15-16, Applicant argues that Edem fails to disclose a “send delay adding part that delays each bearer frame up to a frame offset timing and a receive delay adding part on a receiving side that delays each bearer frame up to a reference frame timing so that a delay of one reference frame is applied to each frame, allocated between the send and receiving sides.”

Examiner, respectfully, disagrees. Edem teaches delaying data at the transmitter in order to align the data with the time slot of the frame structure (frame offset) (abstract and col. 2, line 51-col. 3, line 8). The received data is then delayed at the receiver in order to retiming the data to achieve a relative timing similar to the timing of the source (reference frame timing) (abstract and col. 2, line 51-col. 3, line 8). As such, Examiner maintains that claim 12 is rendered obvious by the cited prior art.

Drawings

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: m1, m2, m3 (see pg. 2, line 14-pg. 3, line 6). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each

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drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

7. Claim 12 is objected to because of the following informalities: in line 13, "a bearer data separation part which time-division multiplexes" should be "a bearer data separation part which time-division demultiplexes". Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 5-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 5 has been amended to read that the first bearer service is integrated with a second bearer service where the second bearer service has (1) associated delays A and A' and (2) allocated delays B and B'. The specification discloses that the delays A and A' are associated with the first bearer service and that the delays B and B' are associated with the second bearer service (pg. 28, line 28-pg. 29, line 16).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Dupuy (USPN 5,430,774).

12. Regarding claim 1, Applicant admits as prior art a bearer integration method for integrating a plurality of bearer services into a wireless channel by performing time-division multiplexing/demultiplexing (Figs. 1-5 and page 1, line 33-page 9, line 30), said bearer integration method comprising the steps of: inputting bearer service data in synchronization with reference frame timing of a period T in a sending side (Figs. 1-5 and page 1, line 33-page 9, line 30); outputting each bearer frame of said bearer service in the receiving side (Figs. 1-5 and page 1, line 33-page 9, line 30); and integrating said bearer service data into a wireless channel with another bearer service data (Figs. 1-5 and page 1, line 33-page 9, line 30).

Applicant does not disclose as prior art delaying each bearer frame of said bearer service by one frame period by allocating delays A ($0 \leq A \leq T$) and A' ($=T-A$) between the sending side and a receiving side or that the another bearer service has delays B ($A \leq B \leq T$) and B' ($=T-B$) which are allocated between the sending side and the receiving side; however, Applicant does disclose as prior art having a gap in the data stream due to frame misalignment. Dupuy teaches, in a wireless communication system, eliminating a gap in the data stream caused by frame misalignment by adding a delay to the data stream in order to decrease synchronization time

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(Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time of the invention to delay the bearer service data by allocating delays between the sending side and a receiving side, and to have the another bearer service have delays which are allocated between the sending side and the receiving side in order to eliminate a gap in the data stream such that synchronization time is decreased.

Applicant's admitted prior art in view of Dupuy does not expressly disclose allocating a delay of one frame period; however, Applicant's admitted prior art in view of Dupuy does disclose allocating a delay. It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant's admitted prior art in view of Dupuy discloses allocating a delay, any delay, include one frame period, would have been obvious absent a showing of criticality by Applicant. Thus, Applicant's admitted prior art in view of Dupuy suggests delaying each bearer frame of said bearer service by one frame period by allocating delays A ($0 \leq A \leq T$) and A' ($=T-A$) between the sending side and a receiving side, where the language of the claim only requires allocating a single delay of one time frame. Applicant's admitted prior art in view of Dupuy also suggests that the another bearer service has

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delays B ($A \leq B \leq T$) and $B' (= T - B)$ which are allocated between the sending side and the receiving side, where the language of the claim only requires allocating a single delay of one time frame.

13. Regarding claim 2, referring to claim 1, Applicant's admitted prior art in view of Dupuy suggests that when integrating bearer services in which each bearer service has different delay allocation, said bearer services are integrated into a wireless channel which has a delay equal to or larger than the maximum delay in said bearer services (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19). It is implicit that when streams of varying delay are integrated that the combined stream will have a delay equal to or larger than the maximum delay of the individual streams, and therefore the channel into which the stream is integrated must have a delay equal to or larger than the maximum delay of the individual streams.

14. Regarding claim 3, referring to claim 1, Applicant's admitted prior art in view of Dupuy discloses integrating one or more bearer services having any delay allocation into another bearer service having any delay allocation (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19).

15. Regarding claim 4, Applicant's admitted prior art discloses a bearer integration method for integrating a plurality of bearer services into a wireless channel by performing time-division multiplexing/demultiplexing (Figs. 1-5 and page 1, line 33-page 9, line 30), said bearer integration method comprising the steps of: inputting each bearer frame of bearer service in synchronization with reference frame timing of a period T in a sending side (Figs. 1-5 and page

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1, line 33-page 9, line 30); outputting each bearer frame of said bearer service in the receiving side (Figs. 1-5 and page 1, line 33-page 9, line 30); and integrating said bearer service into a wireless channel with another bearer service data (Figs. 1-5 and page 1, line 33-page 9, line 30).

Applicant does not disclose as prior art delaying each bearer frame of said bearer service by two frame period by allocating delays A ($0 \leq A \leq T$) and $A' (=2T-A)$ between the sending side and a receiving side or that the another bearer service has delays $T+B$ ($0 \leq B \leq T$) and $B' (=T-B)$ which are allocated between the sending side and the receiving side; however, Applicant does disclose as prior art having a gap in the data stream due to frame misalignment. Dupuy teaches, in a wireless communication system, eliminating a gap in the data stream caused by frame misalignment by adding a delay to the data stream in order to decrease synchronization time (Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to delay the bearer service data by allocating delays between the sending side and a receiving side, and to have the another bearer service have delays which are allocated between the sending side and the receiving side in order to eliminate a gap in the data stream such that synchronization time is decreased.

Applicant's admitted prior art in view of Dupuy does not expressly disclose allocating a delay of two frame periods; however, Applicant's admitted prior art in view of Dupuy does disclose allocating a delay. It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph

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Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant's admitted prior art in view of Dupuy discloses allocating a delay, any delay, include two frame periods, would have been obvious absent a showing of criticality by Applicant. Thus, Applicant's admitted prior art in view of Dupuy suggests delaying each bearer frame of said bearer service by two frame periods by allocating delays A ($0 \leq A \leq T$) and $A' (=2T-A)$ between the sending side and a receiving side, where the language of the claim only requires allocating a single delay of one time frame. Applicant's admitted prior art in view of Dupuy also suggests that the another bearer service has delays $T+B$ ($0 \leq B \leq T$) and $B' (=T-B)$ which are allocated between the sending side and the receiving side, where the language of the claim only requires allocating a single delay of two time frames.

16. Regarding claim 5, Applicant's admitted prior art in view of Dupuy discloses integrating a first bearer service in which delays A ($0 \leq A \leq T$) and $A' (=2T-A)$ are associated with a second bearer service in which delays B ($0 \leq B \leq T$) and $B' (=2T-B)$ are allocated between the sending side and the receiving side into a wireless channel C in which delays $T+C$ ($0 \leq C \leq T$) and $C' (=T-C)$ are allocated (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19).

17. Regarding claim 7, referring to claim 1, Applicant's admitted prior art in view of Dupuy suggests that a point of delay allocation between the sending side and the receiving side corresponds to frame offset timing (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and

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Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19) since the delay is intended to ensure that the frames of a stream align in the receiver.

18. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Dupuy (USPN 5,430,774) in further view of Edem et al (USPN 5,559,796).

19. Regarding claim 6, Applicant's admitted prior art in view of Dupuy suggests delaying, in the sending side, a first bearer frame of said first bearer service which is input after bearer integration timing by a period $T+C$, delaying bearer frames of said first bearer service after a second bearer frame by a period C ; delaying, in the sending side, bearer frames of said second bearer service after a third bearer frame of said second bearer service which is input after bearer integration timing by a period C , integrating the first and the second bearer services into the wireless channel C and sending integrated data (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19).

Applicant's admitted prior art in view of Dupuy does not expressly disclose delaying, in the receiving side, the first bearer frame by a period $T-C$, delaying said bearer frames after the second bearer frame by a period $2TC$, and outputting these bearer frames; and delaying, in the receiving side, said bearer frames of said second bearer service after the third bearer frame by a period $2T-C$ and outputting said bearer frames. Edem teaches, in a frame-based communication network, delaying each bearer service data in the receiver up to frame offset timing in order to have the relative timing of the frames be substantially similar to the timing of the frames before integration (col. 2, line 51-64). It would have been obvious to one of ordinary skill in the art at

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the time of the invention to have a receive delay adding part which delays the first bearer frame by a period $T-C$, the bearer frames after the second bearer frame by a period $2T-C$, and the bearer frames of said second bearer service after the third bearer frame by a period $2T-C$ in order to have the relative timing of the frames be substantially similar to the timing of the frames before integration.

20. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Edem et al (USPN 5,559,796).

21. Regarding claim 12, Applicant admits as prior art a communication system which integrates a plurality of bearer services into a wireless channel by performing time-division multiplexing/demultiplexing (Figs. 1-5 and page 1, line 33-page 9, line 30), said communication system comprising: a bearer data multiplexing part which time-division multiplexes bearer frames of the one or more bearer service output from a part wherein the bearer frames that are multiplexed are transmitted via a wireless channel (Figs. 1-5 and page 1, line 33-page 9, line 30); and a bearer data separation part which time division demultiplexing data of bearer integration received via a wireless channel (Figs. 1-5 and page 1, line 33-page 9, line 30).

Applicant does not admit as prior art a send delay adding part which synchronizes with reference frame timing, delays each bearer frame of one or more bearer services input before bearer integration timing up to each frame offset timing, and delays each bearer frame of the one or more bearer services input after bearer integration timing up to frame offset timing for bearer integration. Edem teaches, in a frame-based communication network, having a send delay adding part which synchronizes with reference frame timing, delays each frame of one or more frames input before integration timing (multiplexing) up to each frame offset timing (timing done before

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“re-timing”), and delays each frame of the one or more frames input after integration timing up to frame offset timing for bearer integration (“re-timing”) in order to synchronize the frames to the multiplexed frame sequence (col. 2, line 51-64) where “re-timing” of data implicitly discloses that the data was previously timed before multiplexing such that the data was delayed before multiplexing and where “re-timing” of data discloses that the data is delayed for multiplexing. It would have been obvious to one of ordinary skill in the art at the time of the invention to have a send delay adding part which synchronizes with reference frame timing, delays each frame of one or more frames input before integration (multiplexing) timing up to each frame offset timing, and delays each frame of the one of more frames input after integration timing up to frame offset timing for bearer integration in order to synchronize the frames to the multiplexed frame sequence.

Applicant also does not disclose as prior art a receive delay adding part which delays each bearer frame of the one or more bearer services input before bearer integration timing up to reference frame timing, and delays each bearer frame of the one or more bearer services output from said bearer data separation part after bearer integration timing up to frame offset timing. Edem teaches, in a frame-based communication network, having a receive delay adding part which delays one or more bearer service data input before bearer integration timing up (multiplexed stream) to reference frame timing, and delays each bearer service data output from said bearer data separation part after bearer integration timing up to frame offset timing (demultiplexed steam) in order to have the relative timing of the frames be substantially similar to the timing of the frames before integration (col. 2, line 51-64) where Examiner takes official notice that a delay is typically added when a multiplexed stream is received since it takes time to

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process a stream of data. It would have been obvious to one of ordinary skill in the art at the time of the invention to have a receive delay adding part which delays one or more bearer service data input before bearer integration timing up (multiplexed stream) to reference frame timing, and delays each bearer service data output from said bearer data separation part after bearer integration timing up to frame offset timing (demultiplexed stream) in order to have the relative timing of the frames be substantially similar to the timing of the frames before integration.

Allowable Subject Matter

22. Claims 8-11 are allowed. The prior art does not disclose or fairly suggest allocating a delay time according to a delay margin obtained by subtracting a system delay from the maximum allowable delay defined by service quality.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DJR Daniel J. Ryman
Examiner
Art Unit 2665



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